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Request for the inclusion of an additional item in the agenda of the seventy-second session

Impact of exponential technological change on sustainable development and peace

Letter dated 16 October 2017 from the Permanent Representative of Mexico to the United Nations addressed to the Secretary-General

In accordance with rule 15 of the rules of procedure of the General Assembly, I have the honour to request you to include in the plenary General Assembly agenda the additional item entitled "Impact of exponential technological change on sustainable development and peace".

Since this rule states that additional items of an important and urgent character proposed for inclusion during the regular session may be placed on the agenda if the General Assembly so decides, I am annexing an explanatory memorandum for consideration at the next meeting of the General Committee on 23 October 2017.

(*Signed*) Juan José **Gómez Camacho**
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Annex

[Original: English]

Explanatory memorandum

The present submission provides an explanation as to why the item entitled "Impact of exponential technological change on sustainable development and peace" should be addressed by the General Assembly in the plenary.

The justifications are as follows:

1. The multisectoral and multi-disciplinary impact of exponential technological change;
2. The need for multi-stakeholder support and multi-agency engagement in the field of exponential technologies;
3. The need to discuss the opportunities and challenges of exponential technological change for sustainable development and peace in the plenary of the General Assembly, in the light of its universal membership

1. The multisectoral and multidisciplinary impact of exponential technological change

Over the past 10 years, there has been accelerated growth in several areas of research that have had positive and negative repercussions in every sector, dimension and field; from the highest levels of innovation in strategic areas to the most basic aspects of everyday life, in all the countries of the world. But while exponential technologies move at a three-dimensional speed, our organizations, institutions and societies are still moving in a linear fashion and have not adapted accordingly.

One of the purposes of the Charter of the United Nations is the promotion of social progress and better standards of life in larger freedom. To this aim, scientific and technological progress should be used for the benefit of all humankind, to promote the sustainable economic and social development of all States and for peaceful purposes.

The 2030 Agenda for Sustainable Development states that there can be no sustainable development without peace and no peace without sustainable development. It has also recognized that the spread of information and communications technologies (ICTs) and global interconnectedness have great potential to accelerate human progress, bridge the digital divide and develop knowledge societies.

Unlike other periods of great transformation, today the effects are global, immediate, deep and increasingly irreversible. Scientific and technological innovation has sped up across areas as diverse as ICTs, the Internet of things, automation, robotics, artificial intelligence, nanotechnology, neurotechnology, biotechnology and energy technology. Many are interlinked, thereby mutually improving their own functions, which are projected to increase every day. Furthermore, all of them are forces for global political, economic and cultural change.

For instance, with respect to social progress, social media has revolutionized the way that people communicate, make decisions and socialize across the world, including in politics and business. It has inspired political mass movements, but also transmitted messages of hate. Global virtual communities have emerged during the

past few years, owing to mobile technology, online services and smart technology platforms. The digitization of the information age has also made the use of big data the most important tool for developing public policies. Unstoppable technological development and rapid urbanization — expected to reach 80 per cent of the global population by 2040 — have resulted in megacities that need to become smarter and use renewable energy more efficiently to be sustainable.

In the economic realm, artificial intelligence is leading to a new industrial revolution through the increased use of robotics, the Internet of things, three-dimensional printing, quantum computing, nanotechnology, autonomous vehicles and urban transportation, among others. Digitization and increased automation of economic activity, involving areas such as communications, online education, e-commerce, agriculture, health and capacity-building, are also having a dual impact on jobs: although they are replacing human capital, they are also making it possible for workers to provide goods and services in the global market at reduced costs through collaborative/sharing economies.

Rapid technological change is also having an impact on sustaining peace. Today, new technological tools are facilitating the collection of data, crisis mapping and crowdsourcing for conflict prevention and peace operations. But the use of super intelligence and unmanned technology in conflicts also increases the vulnerability of data and societies. Other threats come from the use of synthetic biology and nanotechnology for mass and conventional destruction. At the same time, challenges to cybersecurity and the increased use of drones and high-tech weapons reveal the need for the transparent and ethical use of big data and artificial intelligence.

Since technological changes are of a transnational nature, it will be impossible for a single country alone to effectively address these multidisciplinary challenges. However, Governments and the United Nations are widely seen as being behind the curve on many of these technological changes. Transversal and multisectoral "technology foresight" in policy planning to assess the potential impact of emerging technological developments on our societies and economies is needed. It is ultimately necessary for the General Assembly to guide this foresight and bring the principles of shared prosperity and universal solutions to exponential technologies, which can contribute to achieving the Sustainable Development Goals. Debate on this issue can also contribute to building a solid body of updated research on how automation, digitization and global connectivity might play out by 2030.

We have entered into the most disruptive era in our history, where the accelerated speed of technological change requires a multisectoral assessment, immediate action and long-term planning within the United Nations.

2. The need for multi-stakeholder support and multi-agency engagement in the field of exponential technologies

The exponential power and impact of technology in multiple sectors needs to be approached in an inclusive manner, in order to provide opportunities to all, accelerate progress across the Sustainable Development Goals and devise effective ways to mitigate its challenges to progress and peace.

For this purpose, Governments are required to partner along with industries, academia and civil society to ensure that technology develops in a transparent, ethical and responsible manner that leaves no one behind and promotes the resilience of their workforce and societies.

In 2015, the Technology Facilitation Mechanism was launched within the framework of the 2030 Agenda to support the implementation of the Sustainable

Development Goals, in order to facilitate multi-stakeholder collaboration and partnerships through the sharing of information, experiences, best practices and policy advice among Member States, civil society, the private sector, the scientific community, more than 30 United Nations system entities and other stakeholders.

This new Mechanism, established pursuant to the Addis Ababa Action Agenda of the Third International Conference on Financing for Development, in 2015, is composed of a United Nations inter-agency task team on science, technology and innovation, a collaborative multi-stakeholder forum on science, technology and innovation for the Sustainable Development Goals and an online platform. In its two past sessions, the forum started to identify the impact of exponential technological change on sustainable development.

In June 2016, the first forum on science, technology and innovation noted in its summary that the technological revolution is having an impact on all disciplines and industries and on the world's economy; indicated that rapid advances in ICTs, energy technology, biotechnology, nanotechnology, neurotechnology and other technologies will affect all sectors of the economy, including manufacturing, construction and transportation; and suggested that taking advantage of those technologies to advance social and economic inclusion, as well as to promote environmental sustainability and peace, will require a transformation of our societies. It concluded that it is necessary to look beyond the coming 15 years, given that the transformations that are required have longer time horizons.

In 2017, the forum on science, technology and innovation continued this discussion and included a session on the theme "Emerging frontiers: evolving science, technology and innovation developments with implications for the Sustainable Development Goals", during which it was recommended that policymakers become aware of the potential effects of accelerating technological change, and that viable technology strategies should be elaborated in each country. It was also recommended that government policy should guide technological change towards sustainable development, help mitigate the negative effects of such change and promote broad access to the benefits of technology development, while adapting existing technologies and promoting the diffusion of relevant knowledge through the training of new generations of scientists and other capacity-building services. Given the potential of these developments to have a significant impact on human well-being and sustainability around the world, a longer-term and systematic programme of work in a multi-stakeholder format was also proposed, so as to help to illuminate issues and provide guidance at various levels.

In the United Nations system, different entities have recently started to assess the impact of technological change, within their mandates in an individual manner, such as the World Intellectual Property Organization, which has initiated studies in follow-up to the 2010 report entitled "Foresight into the future of WIPO's development agenda"; the Commission on Science and Technology for Development, which addressed the theme "Foresight for digital development" in 2016, on which it will work further during its session in May 2018; the International Labour Organization, which initiated research in November 2016 on the theme "Making technology work for all" and, in August 2017, launched the Global Commission on the Future of Work to mark its 100-year anniversary in 2019; and the International Telecommunications Union, which convened in Geneva in June 2017 a global summit on the theme "Artificial intelligence for good". Other relevant United Nations entities include the United Nations Conference on Trade and Development, the United Nations Educational, Scientific and Cultural Organization and the Internet Governance Forum.

At the regional level, for instance, the Economic Commission for Latin America and the Caribbean (ECLAC) commenced research on technological change in 2016, and hosted, with the Government of Mexico, a special session on artificial intelligence in April 2017, during the first forum of the Latin American and Caribbean countries for sustainable development. During that session, views were exchanged on opportunities and challenges related to the use of new technologies in the countries of the region, taking into account the global process, the sectors in which new technologies can be used and the potential benefits and costs. As part of its intergovernmental conclusions, the potential impacts of exponential technological change and automation were recognized and it was recommended that the secretariat of ECLAC continue to analyse the issue with a view to initiating a debate at the preparatory meeting for the sixth Ministerial Conference on the Information Society in Latin America and the Caribbean, held in Santiago in August 2017, and to establishing a regional task force to elaborate recommendations for ongoing United Nations processes related to the achievement of the Sustainable Development Goals.

Other United Nations processes that follow up on achieving the Sustainable Development Goals have also underscored the effects of exponential technological change. In July 2017, the high-level political forum on sustainable development acknowledged in its Ministerial Declaration both the transformative and disruptive potential of new technologies, in particular advances in automation, on labour markets and on the jobs of the future, with a view to preparing all societies and economies for these effects. The August 2017 report of the Secretary-General entitled "Fulfilling the promise of globalization: advancing sustainable development in an interconnected world" (A/72/301) indicated that more than 1.1 billion jobs have already been automated and estimated the loss of up to 2 billion jobs to robotics and digitization by 2030.

Finally, on 11 October 2017, at the joint meeting of the Second Committee of the General Assembly and the Economic and Social Council on the theme "The future of everything — sustainable development in the age of rapid technological change", participants highlighted the transnational nature of technological changes and the need to reflect on new forms of collaboration at the multilateral level and on multi-stakeholder approaches by Governments.

In sum, while multi-stakeholder approaches by each Government can bring together their respective private sectors, scientific communities and civil societies to elaborate integrated guidelines and frameworks, the United Nations can facilitate a multi-agency platform for all Member States, in particular for those countries in special situations, that may allow for transversal collaboration and sharing of information and best practices in the field of exponential technologies. In this regard, the Technology Facilitation Mechanism, which is mandated to include relevant technology actors, both within and outside the United Nations system, can be an axis for such a platform and bring its findings to the debate on this item to the plenary of the General Assembly.

3. The need to discuss the opportunities and challenges of exponential technological change for sustainable development and peace in the plenary of the General Assembly, in the light of its universal membership

Outside the United Nations, scientists and other organizations like the Organization for Economic Cooperation and Development and the World Bank have identified positive and negative effects of exponential technologies on sustainable development and peace over the past few decades.

Many see in them the solutions to hunger, poverty, social inclusion, resource scarcity, disease and environmental deterioration, that will free people from repetitive, undignified and dangerous jobs through new occupations, including distance or mobile work; boost economic growth through qualitative technological leaps in more advanced and affordable technologies over the next few decades in different sectors, in particular in agriculture, where innovation is increasing productivity and climate-smart solutions for food security; and foster knowledge, cultural understanding, mutual collaboration, global identity and the empowerment of ordinary people as the most important agents for economic and social progress.

Other experts fear mass unemployment and less demand for routine and manual tasks, increased inequality and conflict, structural deflation and the collapse of governance systems, as well as irrational, belligerent or negligent applications that may lead to social tragedies and catastrophes and raise ethical questions regarding advancements which, if not addressed, risk undermining existing societal norms.

In any case, there is an urgent need for the international community to be updated on the latest developments regarding technological changes, so that they may be applied in order to speed up efforts towards achieving the Sustainable Development Goals and sustaining peace. It is also the duty of all Governments to assure that technology is used as a tool to solve major challenges and for peaceful purposes. Governments and multilateral organizations also need to reflect on new forms of collaboration in view of rapid technological change.

Exponential technologies are relevant to the United Nations and all of its members, owing to their growing impact on the economic, social and political issues pertaining to sustainable development and peace. The United Nations system should review the diverse effects of scientific and technological progress and focus on identifying options to harness the potential of emerging technologies. We can plan for the future at United Nations Headquarters with a cross-cutting view and start to collect, analyse and disseminate information in order to issue appropriate recommendations and policy guidance at the multilateral level.

Conclusion

In the light of the justifications set out above, the impact of exponential technological change on sustainable development and peace should, therefore, be included in the agenda of the plenary of the General Assembly at its seventy-second session, thereby starting the discussion.